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EXAMINER	
TSEGAYE, SABA	

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2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/837,008	FLACH ET AL.	
	Examiner	Art Unit	
	Saba Tsegaye	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *41,42,46,47,57-68 and 70-90* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *41, 42, 46, 47, 57-68 and 70-90* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the amendment filed 09/20/07. Claims 41, 42, 45, 46, 57-68 and 70-90 are pending. Currently no claims are in condition for allowance.

Claim Rejections - 35 USC § 103

2. Claims 41, 42, 57, 60-62, 65, 70, 72-75 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki et al. (US 5,483,668) in view of Padovani et al. (US 6,222,830 B1).

Regarding claims 41, 60, 61, 65, 73 and 74, Malkamaki discloses a communications system which supports the mobility of wireless communications devices throughout a building (a cellular radio system comprising a first cell and a second cell), comprising:

at least one centralized computer (MSC see fig. 7);

a plurality of RF transceivers (BTS1, BTS2) connected to the at least one centralized computer (MSC), the RF transceivers distributed throughout the building such that different transceivers provide coverage for different regions (1st cell and 2nd cell) of the building, at least some of the RF transceivers (BTS1, BTS2) of the plurality transmitting and receiving data on different RF channels (column 7, lines 29-31); and

a plurality of wireless communications devices (MS) which communicate bi directionally with the at least one centralized computer (MSC) via the plurality of RF transceivers (BTS1, BTS2), the plurality of wireless communications devices (MS) communicating with the RF transceivers using a wireless time division multiple access protocol (see figs 4 and 5), the

wireless TDMA protocol including a switchover protocol in which the wireless communications devices connect to different RF transceivers of the plurality based on assessments of RF link conditions between individual wireless communications devise and individual RF transceivers, the wireless TDMA protocol thereby supporting the mobility of the wireless communications devise between the different regions of the building (column 5, lines 23-67), wherein at least one of the wireless communications devices maintains respective wireless connections with at least two different RF transceivers of the plurality of RF transceivers at-a-time, and transmits a set of corresponding data packets to the centralized computer via each of the at least two different RF transceivers, and further wherein the at least one wireless communications device transmits the set of corresponding data packets to the at least two RF transceivers on different respective RF frequencies (column 5, lines 23-67; column 7, lines 19-45; lines 55-64). Malkamaki, further, discloses that the MS monitors the signal sent by nearest bas stations (BTS1, BTS2) and sends its respective monitoring results to the center (MSC). However, Malkamaki does not expressly disclose the centralized computer selects one of the set of corresponding data packets based upon error detection codes contained within the set of corresponding data packets.

Padovani et al. teaches that a selector element selects packets received from multiple base transceivers stations based upon frame quality (Abstract; column 8, lines 55-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Padovani et al. of selecting packets received from the different RF transceivers based upon error detection codes in the system of Malkamaki in order to provide a reliable communication system.

Regarding claim 42, Malkamaki discloses the communications system, wherein the assessments of the RF link conditions are made by the wireless communications devices (column 5, lines 35-44; see fig. 7).

Regarding claim 57, Malkamaki discloses the communications system wherein the RF channels are frequency division multiplexed channels (column 2, lines 25-30).

Regarding claims 62 and 77, Malkamaki discloses the communications system wherein at least some of the wireless communions devices transmit digitized waveform data to the centralized computer (column 20, lines 30-36).

Regarding claim 70, Malkamaki discloses a communications system wherein each RF transceiver unit operates on one of multiple wireless channels and the wireless communications devices switch between the multiple wireless channels to switch between RF transceiver units (column 3, lines 15-21).

Regarding claim 72, Malkamaki discloses a communications system wherein each wireless communication device monitors the multiple wireless channels to make assessments of wireless link conditions offers by specific RF transceiver units and uses the assessments to select RF transceiver units with which to establish wireless connections (column 5, lines 35-44; see fig. 7).

Regarding claim 75; Malkamaki discloses a communications system wherein each RF transceiver unit is capable of maintaining wireless connections with multiple wireless communications devices at a time (column 3, lines 45-56).

3. Claims 45 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki et al. in view of Padovani et al. as applied to claims 41 and 65 above, and further in view of Edmon et al. (US 6,813,277 B2).

Malkamaki in view of Padovani discloses all the claim limitations as stated above, except for the timeslot availability messages.

Edmon teaches that individual stations receive downstream broadcast messages indicating the status of each upstream time slot (column 2, lines 34-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Edmon of broadcasting the availability of timeslot to wireless communications devices in to the system of Malkamaki in view of Padovani in order to provide an efficient and more economic use of channel by preventing interference between time slots.

4. Claims 58, 68, 71, 79-81, 83-86, 89 and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki et al. in view of Padovani et al. as applied to claims 41 and 65 above, and further in view of Wallerius et al. (US 6,192,038 B1).

Regarding claims 58, 68, 71 and 79, Malkamaki in view of Padovani discloses all the claim limitations as stated above, except for a first and second RF transceivers being spaced apart and operate on the same RF channel to provide frequency reuse.

Wallerius teaches reuse of the same radio frequencies in designated co-user cells that are sufficiently separated by distance (column 2, lines 36-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Wallerius of reusing frequency in the system of Malkamaki in view of Padovani in order to provide radio frequency communication to large numbers of users.

Regarding claims 80 and 89, Malkamaki discloses the communications system wherein the RF channels are frequency division multiplexed channels (column 7, lines 15-18).

Regarding claim 81, Malkamaki discloses the communications system wherein the RF transceiver units communicate with the wireless communications devices according to wireless time division multiple access protocol (column 7, lines 3-4).

Regarding claim 83, Malkamaki discloses the communication system wherein each wireless communications device monitors the set of wireless channels to make assessments of wireless link conditions offered by specific RF transceiver units, and uses the assessments to select RF transceiver units with to which to establish wireless connection (column 7, lines 24-31; column 7, lines 45-53).

Regarding claims 84 and 85, Padovani et al. teaches that a selector element selects packets received from multiple base transceivers stations based upon frame quality (Abstract; column 8, lines 55-67).

Regarding claims 86 and 90, Malkamaki discloses a communications system wherein each RF transceiver unit is capable of maintaining wireless connections with multiple wireless communications devices at a time (column 3, lines 45-56).

5. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki et al. in view of Padovani et al. as applied to claim 41 above, and further in view of Abreu et al. (US 5,754,956).

Malkamaki in view of Padovani discloses all the claim limitations as stated above, except for wireless communications devices that use their respective catalogs to select RF transceivers.

Abreu teaches a radiotelephone handset receives a control channel from a plurality of base stations and stores all received control channel information in captured data buffer. The handset identifies as candidate suitable bas stations those base stations having acceptable received signal strength (see abstract; column 10, lines 1-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Abreu of maintaining a catalog to select RF transceivers in the system of Malkamaki in view of Padovani in order to find the most suitable base station thereby minimizing battery depletion during the synchronization process.

6. Claims 63, 64, 66 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki et al. in view of Padovani et al. as applied to claims 41 and 65 above, and further in view of Emerson et al. (US 4,775,996).

Regarding claims 63 and 66, Malkamaki in view of Padovani discloses all the claim limitations as stated above, except for RF transceivers that are mounted to a ceiling of the building.

Emerson teaches that RF transceivers are mounted to a ceiling of the building (column 3, lines 44-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Emerson of mounting RF transceivers to a ceiling in to the system of Malkamaki in view of Padovani in order to avoid extensive floor-level work and thereby cutting labor and cost significantly.

Regarding claims 64 and 78, Malkamaki in view of Padovani discloses all the claim limitations as stated above, except for an algorithm for tracking real time locations of wireless communications devices.

Location and tracking systems are known. Therefor it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a system that uses an algorithm for tracking real time locations of wireless communications devises to the system of Malkamaki in view of Padovani in order to avoid delay and provide an efficient communication system.

7. Claims 46 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki in view of Padovani as applied to claims 41 and 65 above, and further in view of Engira (5,152,584).

Malkamaki in view of Padovani discloses all the claim limitations as stated above, except for transmitting real time electrocardiograph waveform data of patients to the wired computer network.

Engira teaches an ECG telemetry system incorporating a patient location system and a method of monitoring physiological status of the patient (column 1, lines 50-column 2, line 26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Engira of transmitting real time electrocardiograph waveform data in the system of Malkamaki in view of Padovani in order to locate ambulatory patients experiencing arrhythmic episodes and monitoring physiological status of the patient (column 2, lines 3-9).

8. Claim 82 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki in view of Padovani and Wallerius as applied to claim 79 above, and further in view of Edmon et al. (US 6,813,277 B2).

Malkamaki in view of Padovani and Wallerius discloses all the claim limitations as stated above, except for the timeslot availability messages.

Edmon teaches that individual stations receive downstream broadcast messages indicating the status of each upstream time slot (column 2, lines 34-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Edmon of broadcasting the availability of timeslot to wireless communications devices in to the system of Malkamaki in view of Padovani and

Wallerius in order to provide an efficient and more economic use of channel by preventing interference between time slots.

9. Claim 87 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki in view of Padovani and Wallerius as applied to claim 79 above, and further in view of Engira (5,152,584).

Malkamaki in view of Padovani and Wallerius discloses all the claim limitations as stated above, except for transmitting real time electrocardiograph waveform data of patients to the wired computer network.

Engira teaches an ECG telemetry system incorporating a patient location system and a method of monitoring physiological status of the patient (column 1, lines 50-column 2, line 26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Engira of transmitting real time electrocardiograph waveform data in the system of Malkamaki in view of Padovani and Wallerius in order to locate ambulatory patients experiencing arrhythmic episodes and monitoring physiological status of the patient (column 2, lines 3-9).

10. Claim 88 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki in view of Padovani and Wallerius as applied to claim 79 above, and further in view of Emerson et al. (US 4,775,996).

Malkamaki in view of Padovani and Wallerius discloses all the claim limitations as stated above, except for RF transceivers that are mounted to a ceiling of the building.

Emerson teaches that RF transceivers are mounted to a ceiling of the building (column 3, lines 44-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings from Emerson of mounting RF transceivers to a ceiling in to the system of Malkamaki in view of Padovani and Wallerius in order to avoid extensive floor-level work and thereby cutting labor and cost significantly.

Response to Arguments

11. Applicant's arguments filed 9/20/07 have been fully considered but they are not persuasive. Applicant argues (Remarks, page 2) that *Padovani reference requires a plurality of base transceiver stations to form error detection procedures on the frames.* Examiner respectfully disagrees. Padovani clearly teaches that a BSC, in a soft hand-off situation, receives a multiple packets from a subscriber unit through two base stations. Based on the received packets 305, a selector element at the BCS, determine which packet has frame quality metric 308 with the highest value. As shown in fig. 3, the frame quilt metric 308 comprises CRC is transmitted form the subscriber unit.

Applicant, further, argues (Remarks, page 3) that *the Padovani reference, requiring a plurality of base transceiver stations cannot be combined with the Malkamaki reference to come to the system and method of the present application as a system such as taught in Padovani cannot logically be combined with the system of Malkamaki to perform and error analysis on multiple RF signal.* Examiner disagrees. Malkamaki and Padovani are analogous art because they are from the same field of endeavor of soft handover of a mobile station between base stations

using parallel communication links. Malkamaki discloses a mobile station is capable of being in signaling communication with two base stations and MSC via the base stations. As shown in fig. 7, two different communication channels are utilized during handover between a first cell (includes first base station BTS1) and a second cell (includes second base station BTS2). Further, Malkamaki discloses that the MSC, based monitoring result, can select a new base station for mobile station. The selection can be performed by combining the received signal **in the error correcting circuit** (column 6, lines 35-47). Padovani assists that the selector element, at BSC, determines which packet 305 has the frame quality metric 308, which consists CRC, with the highest value. Fig. 5 shows that a processing of two packet streams from a wireless subscriber unit in soft hand-off. A selector element resource 500 receives data streams A and B and generates output data stream C based on FQM's.

Applicant argues (Remarks, page 4) that *neither Malkamaki, Padovani, nor their combination teach at least some of the RF transceivers of the plurality transmitting and receiving data on different RF channels, and the centralized computer selecting one of the set of corresponding data packets based upon error detection codes contained within the set of corresponding data packets*. Examiner respectfully disagrees with Applicant contention. As stated above, Malkamaki discloses a cellular radio telephones system that comprises at least one mobile station, two base stations and at least one mobile switching center. For the time of preparation of handover parallel physical links are formed between the mobile station and the two or more base stations and selecting means is disposed at the mobile switching center. At the mobile switching center, received signals can be combined in error correcting circuit. Padovani

assists that selecting one of the set of corresponding data packets based upon detection codes (CRC) contained within the set of corresponding data packets (see fig. 5).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Saba Tsegaye
Examiner
Art Unit 2619

ST
November 30, 2007

12/7/07
WING CHAN
SUPERVISORY PATENT EXAMINER